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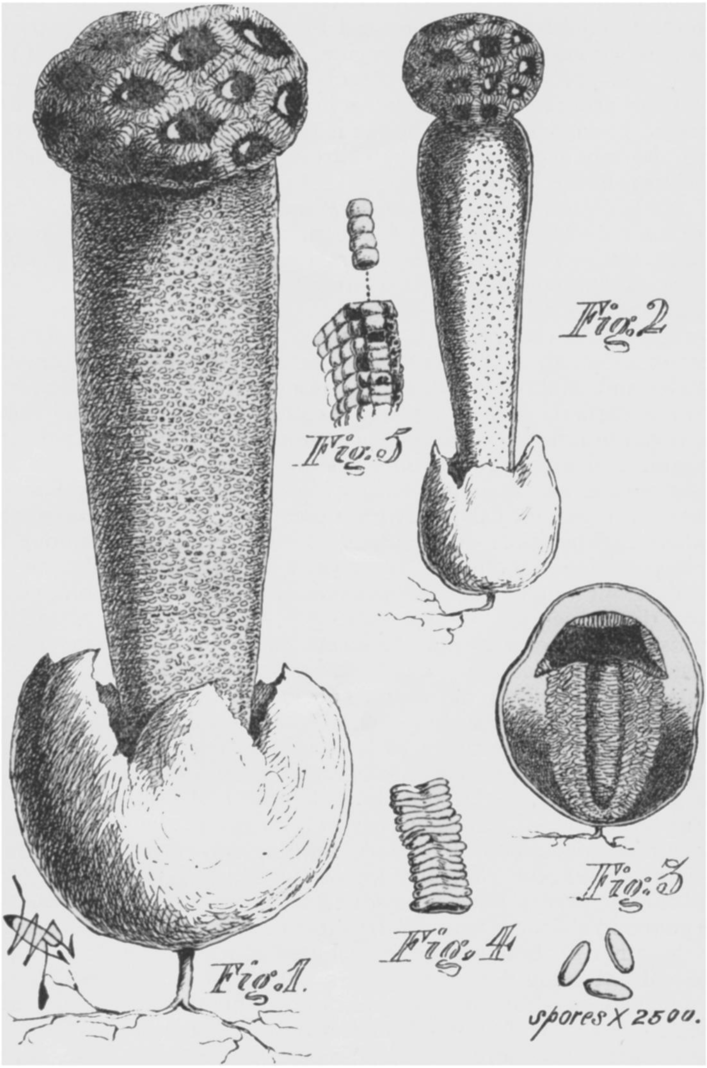
crispum, var. *rostellatum*, H. & W., in Drummond's Southern Mosses No. 10. Hab. New Orleans, Drummond.—I have not been able to see Drummond's No. 10, but I have a *Systegium* from the same region, collected by Hall, Mohr and Featherman, which appears to be not rare throughout the Gulf region, and the only species yet found there ; for the diagnosis of Bruch and Schimper describes it with sufficient accuracy. It is *Astomum* (*Systegium*) *Ludovicianum*, SULLIV, Icones, T. 12. The male flower is terminal, becoming lateral, as B. & S. describe it ; or probably in rare instances becoming dichotomal as shown in the Icones.

(16.) *Orthotrichum brachytrichium*, SCHIMP. ; *O. obtusifolium*, Drummond's Mosses of Brit. Amer., n. 157. Hab. Canada East to the Rocky Mts.—There is some mystery here which I am unable to solve. Drummond's moss is identical with the European *O. obtusifolium*, SCHRAD., which is most accurately described in Schimper's Synopsis, Ed., 1860, p. 263. It is also identical with the numerous specimens which I have from the same region, collected chiefly by Fowler and Macoun. Schimper describes it as having "apiculate acutely carinate most minutely papillose leaves, with the margins subrevolute-reflexed, inflorescence monoecious, calyptra pale straw-colored, and with a few short hairs on its apex." I find the leaves to be obtuse, not carinate, mostly clothed with large papillae, inflorescence dioecious, calyptra with a pale base, fuscous brown above, epilose, and papillose-tuberculate. I have picked from among some *Orthot. Ohioense*, collected by myself in the Jordansville Swamps, N. Y., about a half-dozen sterile stems of this species. Some of these have the leaves all obtuse, more have them nearly all acute or acutish, and one or two of the stems have the upper leaves somewhat hyaline-apiculate ; otherwise they are normal. I have not seen acute leaves on any other of my specimens. There is a depauperate form of this species, always sterile, found on shade trees, old stone fences and limestone rocks, as far south as New Jersey.

(17.) *Plagiothecium pseudo-Silesiacum*, SCHIMPER, *Hypnum Silesiacum*, H. & W., in Drummond's Southern Mosses No. 111. Hab. Near St. Louis.—I have not been able to get a fragment of No. 111, from this collection. But since nothing answering to Schimper's description, except *Plagioth. striatellum* (BRID.), and *Pl. turfaceum*, LINDB., appears to have been found in North America, at least since Drummond's time ; there can be little if any doubt of its being one or the other of these widely distributed species. The basal cells of the leaf not being described, leaves some doubt as to which of the two it belongs ; but since the description fits the former in some respects exactly, while it fits the latter only in a general way, and since the former is the more southern specie, it becomes quite apparent that the moss above referred to is only *Pl. striatellum*. (*Pl. Muhlenbeckii*, BR. EU.)

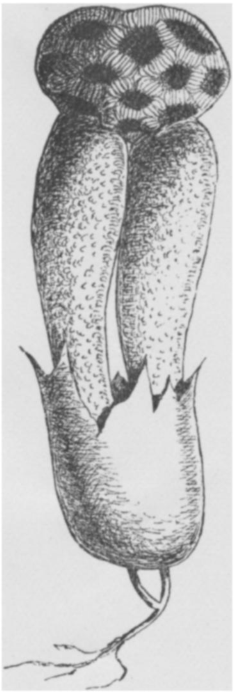
§ 3. **A New Fungus.**—By W. R. GERARD.

Simblum rubescens, *nov. sp.*—Volva subglobose, whitish, bursting irregularly into three or four lobes, which soon become very remote from the stipe. Receptacle depresso-globose, very slightly broader than the stipe, cancellate ; branches crisped, flattened, and with sinu-



SIMBLUM RUBESCENS GERARD.

(**Natural size.**)



SIMBLUM RUBESCENS GERARD.

(**Abnormal growth.**)

ated margins, forming, by their oblique anastomosing, areolations which are nearly always quite regularly pentagonal. Stipe hollow, elastic, cylindrical, tapering towards the base, abruptly rounded at the apex and strongly constricted at its junction with the capitulum. Hymenium olive-brown (ochreous yellow when dried in a thin stratum on paper.) Spores obtusely elliptical, .0001′ (.003 mm.) long. Plants from 3 to 5 inches high ; stipe six lines to one inch in diameter at the broadest part. Color deep fleshy red, bordering on vermilion in the capitulum, and paler towards the base of the stipe. The odor emitted by the sporiferous mass is a peculiar and indescribable one and can be best compared to that of *Corynites Ravenelii*—heavy and slightly nauseous, but not fetid. Shortly after the fungi are gathered, and especially while they are being dried, the smell, at a short distance, is not unlike that of benzoic acid.

Habitat. Among grasses in open places, in various parts of Astoria, Long Island.

My attention was called to this fungus by the Rev. Washington Rodman, who showed me last August, a colored drawing of it made by Miss Trask for her father, Dr. James B. Trask, its discoverer. Having subsequently received fresh specimens of the plant itself from both Mr. Rodman and Mr. Wm. B. Halsey, I recognized it as a species of *Simblum*—a remarkable addition to our American flora, inasmuch as the genus has hitherto been considered as exclusively a tropical one. Of the species which have been described, *Simblum periphragmoides* Klotzsch, the large, robust species, on which the genus was founded, occurs in the Mauritius Islands ; *S. gracile* Berk. (for a description of which I am indebted to Prof. W. G. Farlow) is found in Ceylon ; *S. flavescens* Kurtz, in Java ; and *S. pilidiatum* Ernst., and *S. sphaerocephalum* Schlecht., in South America. A comparison of the species under consideration with the original descriptions and figures as given by the authors of the foregoing, showed it to be quite distinct, not only as regards form but also as to color and other characteristics. Of the species just mentioned, the first and second are pale yellow ; the third sulphur yellow; the fourth white ; and the fifth, although described by Schlechtendal as " more of a brick than of a flesh-red," is figured as a brownish yellow. Of these species, *Simblum rubescens* is most nearly related to *S. sphaerocephalum*, but differs in the form of the upper part of the stipe; in the bright red color, which is deeper in the receptacle ; in the color of the hymenium ; in the odor emitted by the sporiferous mass, which does not, as Schlechtendal expresses it, " stink fürchterlich," but is merely slightly nauseous ; and in the shape of the volva, the lobes of which, after bursting, expand very widely and form a very shallow cup, to the centre of which is affixed the stipe by its exceedingly narrowed base. The plants are solitary and make their appearance after the rains of Summer and Autumn. The capitulum as it bursts from the volva, always carries up with it a small piece of the latter temporarily attached to its upper surface, as does *S. gracile*, according to Mr. Berkeley, in his description and figure of that species. A section of the stipe shows that it is composed of three layers of elongated chambers or cells, the thick lateral walls of which, while the plant is still enclosed in the volva, (Pl. 1, Fig. 3), are several times plicated or folded and strongly compressed. In the mature plant, the evidence of these plications is still visible, causing the expanded chambers to appear as if composed of a string of roundish cells of nearly uniform size ; as seen in Fig. 5 of Plate 1, which represents an edge of the stipe in section, and shows the external aspect of the cells or cavities as seen in its interior. The external walls of this innermost layer of cells are smooth and continuous, and rarely perforated. Those of the extreme outer layer, in the very early stages of the plant, are entire and arranged horizontally like the cells in the hymenophore of *Cynophallus caninus ;* but, when the fungus is fully expanded, these become minutely lacerated and perforated so as to give the external surface of the stipe. when viewed under the lens, a spongy aspect. The apex of the stipe is somewhat abruptly rounded and perforate ; and from the margin of the aperture start the primary branches (6 to 8 in number) of the cancellate structure. These hollow branches or reticulations, septate at intervals, are an upward extension of the inner layer of cells ; they have precisely the same structure, and only differ in being more vertically compressed and laterally flattened (Pl. 1, Fig. 4.) Occasionally two contiguous rows of cells unite to form one of the reticulations, and in this case the latter is marked throughout its whole extent by a deep central depression. In the smaller specimens of *S. rubescens* the areolations formed by the reticulations are in most cases quite uniformly and regularly pentagonal, but in the larger plants there appears to be a little less regularity in this respect.

The outlines of Fig. 1, Plate 1, (which represents the full size apparently to which the plant attains) were copied from a water-color drawing executed by Miss Trask, all of the specimens which I have seen being much smaller. Fig. 2 shows one of these small specimens with the capitulum slightly elevated in order to exhibit the rounded apex of the stipe and its mode of juncture with the recepcle. Although the latter features are always strongly marked in the dried specimens, they would scarcely be noticed on a mere cursory inspection of the living fungus owing to the depression of the capitulum around the top of the stipe, which is due to its somewhat flabby consistency. Plate 2 shows a curious departure from the normal form, in which two stipes arise from the same volva and support one capitulum in common. This figure, which has been photo-engraved from a sketch not intended for publication, is incorrect in one particular, the vertical diameter of the receptacle being represented at least a third too great. The specimen was brought to me by Mr. Halsey. In studying this plant, I have been under great obligations to Messrs. Rodman, Trask, and Halsey for specimens, fresh and preserved, and for various items of information in regard to it.

As the literature relating to the American *Phalloidei* is somewhat scattered, it may not prove uninteresting to botanists if I bring together in this place all the genera and species of the order which have been detected in the United States up to the present time.